

CLAIMS

What is claimed is:

1. A method of tracking activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

receiving a dynamically updated data stream containing level 1 and level 2 data relating to a plurality of securities traded over the at least one exchange, the level 1 data including at least the last trade price, inside bid and inside ask of each security and the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

analyzing the data stream for a set of symbols to derive a statistic indicative of activity of an inside market for each of the symbols, the statistic updated to correspond to content of the updated data stream and the statistic selected from at least one of a total number of market makers at the inside market, and a difference between a number of market makers at an inside bid price and a number of market makers at an inside ask price.

2. The method according to claim 1, further comprising displaying at least one of the statistics indicative of activity of the inside market in at least one of a table or a chart for each corresponding symbol.

3. The method according to claim 2, further comprising dynamically sorting the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

4. The method according to claim 1, further comprising filtering the data stream, the filtering including discarding bids having a price lower than the last trade value minus one of a selected threshold percentage of the last trade value or a fixed

price away, and discarding asks having a price higher than the last trade value plus one of a selected threshold percentage of the last trade value or a fixed price away.

5. The method according to claim 4, wherein filtering is conducted for a plurality of selected threshold percentages or fixed prices away, and for each selected threshold percentage or fixed price away a corresponding data set is derived, the statistic being calculated and updated for each symbol for each data set.

6. The method according to claim 1, further comprising filtering the data stream for each symbol based on traded volume.

10 7. The method according to claim 1, further comprising filtering the data stream for each symbol based on traded price.

8. A method of tracking activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

15 receiving a dynamically updated data stream containing level 1 and level 2 data relating to a plurality of securities traded over the at least one exchange, the level 1 data including at least the last trade price, inside bid and inside ask of each security and the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an 20 ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

25 analyzing the data stream for a set of symbols to derive a statistic indicative of volume activity of an inside market for each of the symbols, the statistic updated to correspond to content of the updated data stream and the statistic selected from at least one of a total volume of shares at the inside market, a difference between a number of shares at an inside bid price and a number of shares at an inside ask price, percent of inside market shares at the inside bid price, and percent of inside market shares at the inside ask price.

9. The method according to claim 8, further comprising displaying at least one of the statistics indicative of volume activity of the inside market in at least one of a table or a chart for each corresponding symbol.

5 10. The method according to claim 9, further comprising dynamically sorting the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

10 11. The method according to claim 8, further comprising filtering the data stream, the filtering including discarding bids having a price lower than the last trade value minus one of a selected threshold percentage of the last trade value or a fixed price away, and discarding asks having a price higher than the last trade value plus one of a selected threshold percentage of the last trade value or a fixed price away.

15 12. The method according to claim 11, wherein filtering is conducted for a plurality of selected threshold percentages or fixed prices away, and for each selected threshold percentage or fixed price away a corresponding data set is derived, the statistic being calculated and updated for each symbol for each data set.

13. The method according to claim 8, further comprising filtering the data stream for each symbol based on traded volume.

20 14. The method according to claim 8, further comprising filtering the data stream for each symbol based on traded price.

15. A method of tracking a plurality of symbols relating to securities traded on at least one common exchange, comprising:

25 receiving a dynamically updated data stream containing level 1 data relating to the plurality of symbols traded over the at least one exchange, the level 1 data including at least the last trade price of each symbol; and

analyzing the data stream for a set of symbols to derive for each symbol at least one of:

an upward price movement indicator by dividing a count of the number of times the symbol achieves a new intra-session high by an intra-session trading price range, and

a downward price movement indicator by dividing a count of the number of times the symbol achieves a new intra-session low by the intra-session price range.

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16. The method according to claim 15, wherein at least one of the upward
10 price movement indicator and the downward price movement indicator is updated to correspond to content of the updated data stream.

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17. The method according to claim 15, further comprising displaying at least one of the upward price movement indicator and the downward price movement indicator in at least one of a table or a chart for each corresponding symbol.

18. The method according to claim 17, further comprising dynamically sorting the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

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19. The method according to claim 15, further comprising filtering the data stream for each symbol based on traded volume.

20. The method according to claim 15, further comprising filtering the data stream for each symbol based on traded price.

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21. The method according to claim 15, further comprising waiting a specified period of time after the beginning of the session to commence the analyzing.

22. A method of tracking a plurality of symbols relating to securities traded on at least one common exchange, comprising:

receiving a dynamically updated data stream containing level 1 data relating to the plurality of symbols traded over the at least one exchange, the level 1 data

5 including at least the last trade price of each symbol; and

analyzing the data stream for a set of symbols to derive for each symbol at least one of:

10 a high opening balance range extension by subtracting a high trade price established during an opening balance delay interval from a current high trade price, and

a low opening balance range extension by subtracting a current low trade price from a low trade price established during the opening balance delay interval.

23. The method according to claim 22, wherein at least one of the high

15 opening balance range extension and the low opening balance range extension is updated to correspond to content of the updated data stream.

24. The method according to claim 22, further comprising displaying at least one of the high opening balance range extension and the low opening balance range extension in at least one of a table or a chart for each corresponding symbol.

20 25. The method according to claim 24, further comprising dynamically sorting the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

26. The method according to claim 22, further comprising filtering the data stream for each symbol based on traded volume.

25 27. The method according to claim 22, further comprising filtering the data stream for each symbol based on traded price.

28. The method according to claim 22, further comprising waiting a specified period of time after the beginning of the session to commence the analyzing.

29. The method according to claim 22, further comprising deriving for each symbol at least one of:

- a high opening balance range extension percentage by dividing the corresponding high opening balance range extension value by a current trading session price range, and
- a low opening balance range extension percentage by dividing the corresponding low opening balance range extension value by the current trading session price range.

30. The method according to claim 29, wherein at least one of the high opening balance range extension percentage and the low opening balance range extension percentage is updated to correspond to content of the updated data stream.

31. The method according to claim 29, further comprising displaying at least one of the high opening balance range extension percentage and the low opening balance range extension percentage in at least one of a table or a chart for each corresponding symbol.

32. The method according to claim 31, further comprising dynamically sorting the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

33. The method according to claim 29, further comprising filtering the data stream for each symbol based on traded volume.

34. The method according to claim 29, further comprising filtering the data stream for each symbol based on traded price.

35. The method according to claim 29, further comprising waiting a specified period of time after the beginning of the session to commence the analyzing.

36. A method of tracking a plurality of symbols relating to securities traded
5 on at least one common exchange, comprising:

receiving a dynamically updated data stream containing level 1 data relating to the plurality of symbols traded over the at least one exchange, the level 1 data including at least the last trade price of each symbol; and

10 tracking on a symbol by symbol basis for a set of symbols a statistic selected from at least one of:

a difference between a number of trades for a first time period and a number of trades for a second time period,

15 a difference between a total volume of shares traded for the first time period and a total volume of shares traded for the second time period,

an average volume of shares per trade for the first time period;

20 an average volume of shares per trade for the second time period; and

a difference between the average volume of shares per trade for the first time period and the average volume of shares per trade for the second time period.

37. The method according to claim 36, further comprising displaying at least one of the tracked statistics in at least one of a table or a chart for each corresponding symbol.

25 38. The method according to claim 36, further comprising for at least one of the tracked statistics calculating an average of the tracked statistic per unit of time over the respective time periods.

39. The method according to claim 36, wherein the first and the second time periods are from the current trading session.

40. The method according to claim 36, wherein the first time period is from the current trading session and the second time period is selected from one of a
5 previous trading session and an average of multiple trading sessions.

41. The method according to claim 36, wherein the tracked statistics are updated based on contents of the data stream at regular intervals.

42. The method according to claim 41, wherein each interval corresponds to a unit of time and, after each interval elapses, the tracked statistics are updated
10 based on data from the most recent intervals that in total corresponds respectively to a length of the first time period and a length of the second time period.

43. The method according to claim 36, wherein the tracked statistics are updated as a moving average.

44. The method according to claim 36, further comprising displaying for
15 each corresponding symbol in at least one of a table or a chart at least one of:

a difference between an average of the number of trades per unit time for the first time period and an average of the number of trades per unit time for the second time period, and

a difference between an average of the volume of shares traded per unit time for the first time period and an average of the volume of shares traded per unit time for the second time period.

45. A method of tracking a plurality of symbols and activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

25 receiving a dynamically updated data stream containing level 2 data relating to a plurality of securities traded over the at least one exchange, the level 2 data

containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

tracking on a symbol by symbol basis for a set of symbols at least one

5 statistic selected from a number of bids, a number of asks, a bid volume of shares, an ask volume of shares, a volume of shares per bid and a volume of shares per ask for each of a first time period and a second time period.

10 46. The method according to claim 45, further comprising displaying at least one of the tracked statistics in at least one of a table or a chart for each corresponding symbol.

47. The method according to claim 45, further comprising for at least one of the tracked statistics calculating an average of the tracked statistic per unit of time over the respective time periods.

15 48. The method according to claim 45, wherein the first and the second time periods are from the current trading session.

49. The method according to claim 45, wherein the first time period is from the current trading session and the second time period is selected from one of a previous trading session and an average of multiple trading sessions.

20 50. The method according to claim 45, wherein the tracked statistics are updated based on contents of the data stream at regular intervals.

51. The method according to claim 50, wherein each interval corresponds to a unit of time and, after each interval elapses, the tracked statistics are updated based on data from the most recent intervals that in total corresponds respectively to a length of the first time period and a length of the second time period.

52. The method according to claim 45, wherein the tracked statistics are updated as a moving average.

5 53. The method according to claim 45, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between the number of bids for the first time period and the number of bids for the second time period, and a difference between the number of asks for the first time period and the number of asks for the second time period.

10 54. The method according to claim 45, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between the bid volume for the first time period and the bid volume for the second period, and a difference between the ask volume for the first time period and the ask volume for the second time period.

15 55. The method according to claim 45, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between the volume per bid for the first time period and the volume per bid for the second time period, and a difference between the volume per ask for the first time period and the volume per ask for the second time period.

20 56. The method according to claim 45, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between an average number of bids per unit of time for the first time period and an average number of bids per unit of time for the second time period, and a difference between an average number of asks per unit time for the first time period and an average number of asks per unit of time for the second time period.

25 57. The method according to claim 45, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between an average of the bid volume per unit of time for the first time period and an average of the bid volume per unit of time for the second time period,

and a difference between an average of the ask volume per unit of time for the first time period and an average of the ask volume per unit of time for the second time period.

5 58. A method of tracking a plurality of symbols and activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

10 receiving a dynamically updated data stream containing level 2 data relating to a plurality of securities traded over the at least one exchange, the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

15 for a selected market maker, tracking on a symbol by symbol basis for a set of symbols at least one statistic selected from a number of bids, a number of asks, a bid volume of shares, an ask volume of shares, a volume of shares per bid and a volume of shares per ask for each of a first time period and a second time period.

59. The method according to claim 58, further comprising displaying at least one of the tracked statistics in at least one of a table or a chart for each corresponding symbol.

60. The method according to claim 58, further comprising for at least one of the tracked statistics calculating an average of the tracked statistic per unit of time over the respective time periods.

61. The method according to claim 58, wherein the first and the second time periods are from the current trading session.

62. The method according to claim 58, wherein the first time period is from the current trading session and the second time period is selected from one of a previous trading session and an average of multiple trading sessions.

63. The method according to claim 58, wherein the tracked statistics are updated based on contents of the data stream at regular intervals.

5 64. The method according to claim 63, wherein each interval corresponds to a unit of time and, after each interval elapses, the tracked statistics are updated based on data from the most recent intervals that in total corresponds respectively to a length of the first time period and a length of the second time period.

65. The method according to claim 58, wherein the tracked statistics are updated as a moving average.

10 66. The method according to claim 58, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between the number of bids for the first time period and the number of bids for the second time period, and a difference between the number of asks for the first time period and the number of asks for the second time period.

15 67. The method according to claim 58, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between the bid volume for the first time period and the bid volume for the second period, and a difference between the ask volume for the first time period and the ask volume for the second time period.

20 68. The method according to claim 58, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between the volume per bid for the first time period and the volume per bid for the second time period, and a difference between the volume per ask for the first time period and the volume per ask for the second time period.

25 69. The method according to claim 58, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between an average number of bids per unit of time for the first time

period and an average number of bids per unit of time for the second time period, and a difference between an average number of asks per unit time for the first time period and an average number of asks per unit of time for the second time period.

70. The method according to claim 58, further comprising displaying for each corresponding symbol in at least one of a table or a chart at least one of a difference between an average of the bid volume per unit of time for the first time period and an average of the bid volume per unit of time for the second time period, and a difference between an average of the ask volume per unit of time for the first time period and an average of the ask volume per unit of time for the second time period.

71. The method according to claim 58, further comprising:

for a second market maker and on a symbol by symbol basis, tracking the at least one statistic selected from a number of bids, a number of asks, a bid volume, an ask volume, a volume per bid and a volume per ask for each of a first time period and a second time period; and

comparing the at least one statistic for the selected market maker and the at least one statistic for the second market maker.

72. A method of tracking activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

receiving a dynamically updated data stream containing level 1 and level 2 data relating to a plurality of securities traded over the at least one exchange, the level 1 data including at least the last trade price, inside bid and inside ask of each security and the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

for each symbol and market maker pair from a set of symbols and a set of market makers, counting at least one of a number of times that a bid having an

inside bid price is placed, and a number of times that an ask having an inside ask price is placed.

73. The method according to claim 72, further comprising displaying at least one of the count of bids having the inside bid price and the count of the asks having the inside ask price in at least one of a table or a chart for each corresponding symbol.

74. The method according to claim 73, further comprising dynamically sorting the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

75. The method according to claim 72, further comprising filtering the data stream for each symbol based on traded volume.

76. The method according to claim 72, further comprising filtering the data stream for each symbol based on traded price.

77. A method of tracking activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

receiving a dynamically updated data stream containing level 1 and level 2 data relating to a plurality of securities traded over the at least one exchange, the level 1 data including at least the last trade price, inside bid and inside ask of each security and the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

for each symbol and market maker pair from a set of symbols and a set of market makers, counting at least one of:

a number of times the market maker is a first market maker to post an inside bid that is higher than an immediately preceding inside bid for the symbol, and

5 a number of times the market maker is a first market maker to post an inside ask that is lower than an immediately preceding inside ask for the symbol.

78. The method according to claim 77, further comprising for each symbol and market maker pair counting at least one of:

10 a number of times that a bid having an inside bid price is placed, and

a number of times that an ask having an inside ask price is placed.

79. The method according to claim 77, further comprising for each symbol and market maker pair counting at least one of:

15 a number of times the market maker is a last market maker to leave an inside bid price for the symbol other than by market movement to a higher inside bid price, and

20 a number of times the market maker is a last market maker to leave an inside ask price for the symbol other than by market movement to a lower inside ask price.

80. The method according to claim 79, further comprising for each symbol and market maker pair totaling at least one of:

25 the counted number of times the market maker is the first market maker to post an inside bid that is higher than an immediately preceding inside bid and the counted number of times the market maker is the last market maker to leave an inside bid price, and

the counted number of times the market maker is the first market maker to post an inside ask that is lower than an immediately

preceding inside ask and the counted number of times the market maker is the last market maker to leave an inside ask price.

5 81. The method according to claim 77, further comprising displaying at least one of the counts in at least one of a table or a chart for each corresponding symbol and market maker pair.

82. The method according to claim 81, further comprising dynamically sorting the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

10 83. The method according to claim 77, further comprising filtering the data stream for each symbol based on traded volume.

84. The method according to claim 77, further comprising filtering the data stream for each symbol based on traded price.

15 85. A method of tracking activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

20 receiving a dynamically updated data stream containing level 1 and level 2 data relating to a plurality of securities traded over the at least one exchange, the level 1 data including at least the last trade price of each security and the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

25 for each symbol and market maker pair from a set of symbols and a set of market makers, generating at least one of a bid persistence statistic by approximating a percentage of a predetermined number trades for which the market maker had an inside bid price, and an ask persistence statistic by approximating a percentage of a predetermined number of trades for which the market maker has an inside ask price.

86. The method according to claim 85, further comprising displaying at least one of the bid persistence statistic and the ask persistence statistic in at least one of a table or a chart for each corresponding symbol and market maker pair.

5 87. The method according to claim 86, further comprising dynamically sorting the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

88. The method according to claim 85, further comprising filtering the data stream for each symbol based on traded volume.

10 89. The method according to claim 85, further comprising filtering the data stream for each symbol based on traded price.

90. The method according to claim 85, wherein the bid persistence statistic and the ask persistence statistic are respectively calculated by:

assigning a value of one to each order at the inside market, otherwise
assigning a value of zero to the order; and
15 separately solving the equation:

$$\left(\Sigma VAL_p + \frac{CV - \Sigma VAL_p}{m} \right)$$

for bid orders and ask orders, wherein m is the predetermined number of trades, CV is the current value assigned to the order and ΣVAL_p is the prior sum of all values calculated according to the equation one trade earlier.

20 91. The method according to claim 90, further comprising multiplying the respective bid order and ask order results of the equation by one hundred to arrive at respective representations of exponential averages.

92. The method according to claim 85, wherein the bid persistence statistic and the ask persistence statistic are respectively calculated as one of a simple

moving average, an exponential moving average, a weighted moving average, a linear regression, or mathematical averaging technique.

93. A program embodied in computer readable medium to track activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

code that receives a dynamically updated data stream containing level 1 and level 2 data relating to a plurality of securities traded over the at least one exchange, the level 1 data including at least the last trade price, inside bid and inside ask of each security and the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

code that analyzes the data stream for a set of symbols to derive a statistic indicative of activity of an inside market for each of the symbols and update the statistic to correspond to content of the updated data stream, the statistic selected from at least one of a total number of market makers at the inside market, and a difference between a number of market makers at an inside bid price and a number of market makers at an inside ask price.

94. The program according to claim 93, further comprising code that displays at least one of the statistics indicative of activity of the inside market in at least one of a table or a chart for each corresponding symbol.

95. The program according to claim 94, further comprising code that dynamically sorts the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

96. The program according to claim 93, further comprising code that filters the data stream by discarding bids having a price lower than the last trade value minus one of a selected threshold percentage of the last trade value or a fixed price

away, and discarding asks having a price higher than the last trade value plus one of a selected threshold percentage of the last trade value or a fixed price away.

97. The program according to claim 96, wherein the filtering code filters for a plurality of selected threshold percentages or fixed prices away, and for each
5 selected threshold percentage or fixed price away a corresponding data set is derived, the statistic being calculated and updated for each symbol for each data set.

98. The program according to claim 93, further comprising code that filters the data stream for each symbol based on traded volume.

10 99. The program according to claim 93, further comprising code that filters the data stream for each symbol based on traded price.

100. A program embodied in computer readable medium to track activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

15 code that receives a dynamically updated data stream containing level 1 and level 2 data relating to a plurality of securities traded over the at least one exchange, the level 1 data including at least the last trade price, inside bid and inside ask of each security and the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an
20 ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

25 code that analyzes the data stream for a set of symbols to derive a statistic indicative of volume activity of an inside market for each of the symbols and that updates statistic to correspond to content of the updated data stream, the statistic selected from at least one of a total volume of shares at the inside market, a difference between a number of shares at an inside bid price and a number of shares at an inside ask price, percent of inside market shares at the inside bid price, and percent of inside market shares at the inside ask price.

101. The program according to claim 100, further comprising code that displays at least one of the statistics indicative of volume activity of the inside market in at least one of a table or a chart for each corresponding symbol.

5 102. The program according to claim 101, further comprising code that dynamically sorts the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

10 103. The program according to claim 100, further comprising code that filters the data stream by discarding bids having a price lower than the last trade value minus one of a selected threshold percentage of the last trade value or a fixed price away, and discarding asks having a price higher than the last trade value plus one of a selected threshold percentage of the last trade value or a fixed price away.

15 104. The program according to claim 103, wherein the filtering code filters for a plurality of selected threshold percentages or fixed prices away, and for each selected threshold percentage or fixed price away a corresponding data set is derived, the statistic being calculated and updated for each symbol for each data set.

105. The program according to claim 100, further comprising code that filters the data stream for each symbol based on traded volume.

20 106. The program according to claim 100, further comprising code that filters the data stream for each symbol based on traded price.

107. A program embodied in computer readable medium to track a plurality of symbols relating to securities traded on at least one common exchange, comprising:

25 code that receives a dynamically updated data stream containing level 1 data relating to the plurality of symbols traded over the at least one exchange, the level 1 data including at least the last trade price of each symbol; and

code that analyzes the data stream for a set of symbols to derive for each symbol at least one of:

an upward price movement indicator by dividing a count of the number of times the symbol achieves a new intra-session high by an intra-session trading price range, and

a downward price movement indicator by dividing a count of the number of times the symbol achieves a new intra-session low by the intra-session price range.

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108. The program according to claim 107, further comprising code that
updates at least one of the upward price movement indicator and the downward
price movement indicator to correspond to content of the updated data stream.

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109. The program according to claim 107, further comprising code that
displays at least one of the upward price movement indicator and the downward
price movement indicator in at least one of a table or a chart for each corresponding
symbol.

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110. The program according to claim 109, further comprising code that
dynamically sorts the at least one of the table or the chart based on a parameter
selected by the user to reflect current market activity.

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111. The program according to claim 107, further comprising code that
filters the data stream for each symbol based on traded volume.

112. The program according to claim 107, further comprising code that
filters the data stream for each symbol based on traded price.

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113. The program according to claim 107, where the analyzing code is
programmed to wait a specified period of time after the beginning of the session to
commence the analyzing.

114. A program embodied in computer readable medium to track a plurality of symbols relating to securities traded on at least one common exchange, comprising:

5 code that receives a dynamically updated data stream containing level 1 data relating to the plurality of symbols traded over the at least one exchange, the level 1 data including at least the last trade price of each symbol; and

code that analyzes the data stream for a set of symbols to derive for each symbol at least one of:

10 a high opening balance range extension by subtracting a high trade price established during an opening balance delay interval from a current high trade price, and

a low opening balance range extension by subtracting a current low trade price from a low trade price established during the opening balance delay interval.

15 115. The program according to claim 114, further comprising code that updates at least one of the high opening balance range extension and the low opening balance range extension to correspond to content of the updated data stream.

20 116. The program according to claim 114, further comprising code that displays at least one of the high opening balance range extension and the low opening balance range extension in at least one of a table or a chart for each corresponding symbol.

25 117. The program according to claim 116, further comprising code that dynamically sorts the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

118. The program according to claim 114, further comprising code that filters the data stream for each symbol based on traded volume.

119. The program according to claim 114, further comprising code that filters the data stream for each symbol based on traded price.

120. The program according to claim 114, where the analyzing code is programmed to wait a specified period of time after the beginning of the session to commence the analyzing.

121. The program according to claim 114, further comprising code that derives for each symbol at least one of:

10 a high opening balance range extension percentage by dividing the corresponding high opening balance range extension value by a current trading session price range, and

a low opening balance range extension percentage by dividing the corresponding low opening balance range extension value by the current trading session price range.

122. The program according to claim 121, further comprising code that updates at least one of the high opening balance range extension percentage and the low opening balance range extension percentage to correspond to content of the updated data stream.

123. The program according to claim 121, further comprising code that displays at least one of the high opening balance range extension percentage and the low opening balance range extension percentage in at least one of a table or a chart for each corresponding symbol.

124. The program according to claim 123, further comprising code that dynamically sorts the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

25 125. The program according to claim 121, further comprising code that filters the data stream for each symbol based on traded volume.

126. The program according to claim 121, further comprising code that filters the data stream for each symbol based on traded price.

127. The program according to claim 121, where the analyzing code is programmed to wait a specified period of time after the beginning of the session to commence the analyzing.

128. A program embodied in computer readable medium to track a plurality of symbols relating to securities traded on at least one common exchange, comprising:

code that receives a dynamically updated data stream containing level 1 data relating to the plurality of symbols traded over the at least one exchange, the level 1 data including at least the last trade price of each symbol; and

code that tracks on a symbol by symbol basis for a set of symbols a statistic selected from at least one of:

a difference between a number of trades for a first time period and a number of trades for a second time period,

a difference between a total volume of shares traded for the first time period and a total volume of shares traded for the second time period,

an average volume of shares per trade for the first time period;

an average volume of shares per trade for the second time period; and

a difference between the average volume of shares per trade for the first time period and the average volume of shares per trade for the second time period.

129. The program according to claim 128, further comprising code that displays at least one of the tracked statistics in at least one of the table or the chart for each corresponding symbol.

130. The program according to claim 128, further comprising code that for at least one of the tracked statistics calculates an average of the tracked statistic per unit of time over the respective time periods.

131. The program according to claim 128, wherein the first and the second
5 time periods are from the current trading session.

132. The program according to claim 128, wherein the first time period is from the current trading session and the second time period is selected from one of a previous trading session and an average of multiple trading sessions.

133. The program according to claim 128, further comprising code that
10 updates the tracked statistics based on contents of the data stream at regular intervals.

134. The program according to claim 133, wherein each interval corresponds to a unit of time and, after each interval elapses, the tracked statistics are updated based on data from the most recent intervals that in total corresponds
15 respectively to a length of the first time period and a length of the second time period.

135. The program according to claim 128, wherein the tracked statistics are updated as a moving average.

136. The program according to claim 128, further comprising code that
20 displays for each corresponding symbol in at least one of a table or a chart at least one of:

a difference between an average of the number of trades per unit time for the first time period and an average of the number of trades per unit time for the second time period, and

a difference between an average of the volume traded per unit time for the first time period and an average of the volume traded per unit time for the second time period.

137. A program embodied in computer readable medium to track a plurality
5 of symbols and activity of a plurality of market makers relating to securities traded on
at least one common exchange where the market makers place bids and asks,
comprising:

code that receives a dynamically updated data stream containing level 2 data
relating to a plurality of securities traded over the at least one exchange, the level 2
10 data containing a bid price, a bid time, a bid volume, a security identifier, and a
market maker identifier for each bid, and an ask price, an ask volume, an ask time, a
security identifier and a market maker identifier for each ask; and

code that tracks on a symbol by symbol basis for a set of symbols at least
one statistic selected from a number of bids, a number of asks, a bid volume of
15 shares, an ask volume of shares, a volume of shares per bid and a volume of shares
per ask for each of a first time period and a second time period.

138. The program according to claim 137, further comprising code that
displays at least one of the tracked statistics in at least one of a table or a chart for
each corresponding symbol.

139. The program according to claim 137, further comprising code that for
20 at least one of the tracked statistics calculates an average of the tracked statistic per
unit of time over the respective time periods.

140. The program according to claim 137, wherein the first and the second
time periods are from the current trading session.

141. The program according to claim 137, wherein the first time period is
25 from the current trading session and the second time period is selected from one of
a previous trading session and an average of multiple trading sessions.

142. The program according to claim 137, further comprising code that updates the tracked statistics based on contents of the data stream at regular intervals.

143. The program according to claim 142, wherein each interval 5 corresponds to a unit of time and, after each interval elapses, the tracked statistics are updated based on data from the most recent intervals that in total corresponds respectively to a length of the first time period and a length of the second time period.

144. The program according to claim 137, wherein the tracked statistics are 10 updated as a moving average.

145. The program according to claim 137, further comprising code that displays for each corresponding symbol in at least one of a table or a chart at least one of a difference between the number of bids for the first time period and the number of bids for the second time period, and a difference between the number of 15 asks for the first time period and the number of asks for the second time period.

146. The program according to claim 137, further comprising code that displays for each corresponding symbol in at least one of a table or a chart at least one of a difference between the bid volume for the first time period and the bid volume for the second period, and a difference between the ask volume for the first 20 time period and the ask volume for the second time period.

147. The program according to claim 137, further comprising code that displays for each corresponding symbol in at least one of a table or a chart at least one of a difference between the volume per bid for the first time period and the volume per bid for the second time period, and a difference between the volume per 25 ask for the first time period and the volume per ask for the second time period.

148. The program according to claim 137, further comprising code that displays for each corresponding symbol in at least one of a table or a chart at least one of a difference between an average number of bids per unit of time for the first time period and an average number of bids per unit of time for the second time period, and a difference between an average number of asks per unit time for the first time period and an average number of asks per unit of time for the second time period.

149. The program according to claim 137, further comprising code that displays for each corresponding symbol in at least one of a table or a chart at least one of a difference between an average of the bid volume per unit of time for the first time period and an average of the bid volume per unit of time for the second time period, and a difference between an average of the ask volume per unit of time for the first time period and an average of the ask volume per unit of time for the second time period.

150. A program embodied in computer readable medium to track a plurality of symbols and activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

code that receives a dynamically updated data stream containing level 2 data relating to a plurality of securities traded over the at least one exchange, the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

code that tracks for a selected market maker on a symbol by symbol basis for a set of symbols at least one statistic selected from a number of bids, a number of asks, a bid volume of shares, an ask volume of shares, a volume of shares per bid and a volume of shares per ask for each of a first time period and a second time period.

151. The program according to claim 150, further comprising code that displays at least one of the tracked statistics in at least one of a table or a chart for each corresponding symbol.

5 152. The program according to claim 150, further comprising code that calculates for at least one of the tracked statistics an average of the tracked statistic per unit of time over the respective time periods.

153. The program according to claim 150, wherein the first and the second time periods are from the current trading session.

10 154. The program according to claim 150, wherein the first time period is from the current trading session and the second time period is selected from one of a previous trading session and an average of multiple trading sessions.

155. The program according to claim 150, further comprising code that updates the tracked statistics based on contents of the data stream at regular intervals.

15 156. The program according to claim 155, wherein each interval corresponds to a unit of time and, after each interval elapses, the tracked statistics are updated based on data from the most recent intervals that in total corresponds respectively to a length of the first time period and a length of the second time period.

20 157. The program according to claim 150, wherein the tracked statistics are updated as a moving average.

158. The program according to claim 150, further comprising code that displays for each corresponding symbol in at least one of a table or a chart at least one of a difference between the number of bids for the first time period and the

number of bids for the second time period, and a difference between the number of asks for the first time period and the number of asks for the second time period.

159. The program according to claim 150, further comprising code that displays for each corresponding symbol in at least one of a table or a chart at least one of a difference between the bid volume for the first time period and the bid volume for the second period, and a difference between the ask volume for the first time period and the ask volume for the second time period.

160. The program according to claim 150, further comprising code that displays for each corresponding symbol in at least one of a table or a chart at least one of a difference between the volume per bid for the first time period and the volume per bid for the second time period, and a difference between the volume per ask for the first time period and the volume per ask for the second time period.

161. The program according to claim 150, further comprising code that displays for each corresponding symbol in at least one of a table or a chart at least one of a difference between an average number of bids per unit of time for the first time period and an average number of bids per unit of time for the second time period, and a difference between an average number of asks per unit time for the first time period and an average number of asks per unit of time for the second time period.

162. The program according to claim 150, further comprising code that displays for each corresponding symbol in a table at least one of a difference between an average of the bid volume per unit of time for the first time period and an average of the bid volume per unit of time for the second time period, and a difference between an average of the ask volume per unit of time for the first time period and an average of the ask volume per unit of time for the second time period.

163. The program according to claim 150, further comprising:
code that tracks for a second market maker and on a symbol by symbol basis
the at least one statistic selected from a number of bids, a number of asks, a bid
volume, an ask volume, a volume per bid and a volume per ask for each of a first
5 time period and a second time period; and
code that compares the at least one statistic for the selected market maker
and the at least one statistic for the second market maker.

164. A program embodied in computer readable medium to track activity of
a plurality of market makers relating to securities traded on at least one common
10 exchange where the market makers place bids and asks, comprising:
code that receives a dynamically updated data stream containing level 1 and
level 2 data relating to a plurality of securities traded over the at least one exchange,
the level 1 data including at least the last trade price, inside bid and inside ask of
each security and the level 2 data containing a bid price, a bid time, a bid volume, a
15 security identifier, and a market maker identifier for each bid, and an ask price, an
ask volume, an ask time, a security identifier and a market maker identifier for each
ask; and
code that, for each symbol and market maker pair from a set of symbols and
a set of market makers, counts at least one of a number of times that a bid having
20 an inside bid price is placed, and a number of times that an ask having an inside ask
price is placed.

165. The program according to claim 164, further comprising code that
displays at least one of the count of bids having the inside bid price and the count of
the inside ask price in at least one of a table or a chart for each corresponding
25 symbol.

166. The program according to claim 165, further comprising code that
dynamically sorts the at least one of the table or the chart based on a parameter
selected by the user to reflect current market activity.

167. The program according to claim 164, further comprising code that filters the data stream for each symbol based on traded volume.

168. The program according to claim 164, further comprising code that filters the data stream for each symbol based on traded price.

5 169. A program embodied in computer readable medium to track activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

10 code that receives a dynamically updated data stream containing level 1 and level 2 data relating to a plurality of securities traded over the at least one exchange, the level 1 data including at least the last trade price, inside bid and inside ask of each security and the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

15 code that, for each symbol and market maker pair from a set of symbols and a set of market makers, counts at least one of:

 a number of times the market maker is a first market maker to post an inside bid that is higher than an immediately preceding inside bid for the symbol, and

20 a number of times the market maker is a first market maker to post an inside ask that is lower than an immediately preceding inside ask for the symbol.

170. The program according to claim 169, further comprising code that, for each symbol and market maker pair, counts at least one of:

25 a number of times that a bid having an inside bid price is placed, and

 a number of times that an ask having an inside ask price is placed.

171. The program according to claim 169, further comprising code that, for each symbol and market maker pair, counts at least one of:

5 a number of times the market maker is a last market maker to leave an inside bid price for the symbol other than by market movement to a higher inside bid price, and

10 a number of times the market maker is a last market maker to leave an inside ask price for the symbol other than by market movement to a lower inside ask price.

172. The program according to claim 171, further comprising code that, for each symbol and market maker pair, totals at least one of:

15 the counted number of times the market maker is the first market maker to post an inside bid that is higher than an immediately preceding inside bid and the counted number of times the market maker is the last market maker to leave an inside bid price, and

20 the counted number of times the market maker is the first market maker to post an inside ask that is lower than an immediately preceding inside ask and the counted number of times the market maker is the last market maker to leave an inside ask price.

173. The program according to claim 169, further comprising code that displays at least one of the counts in at least one of a table or a chart for each corresponding symbol and market maker pair.

25 174. The program according to claim 173, further comprising code that dynamically sorts the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

175. The program according to claim 169, further comprising code that filters the data stream for each symbol based on traded volume.

176. The program according to claim 169, further comprising code that filters the data stream for each symbol based on traded price.

177. A program embodied in computer readable medium to track activity of a plurality of market makers relating to securities traded on at least one common exchange where the market makers place bids and asks, comprising:

5 code that receives a dynamically updated data stream containing level 1 and level 2 data relating to a plurality of securities traded over the at least one exchange, the level 1 data including at least the last trade price of each security and the level 2 data containing a bid price, a bid time, a bid volume, a security identifier, and a 10 market maker identifier for each bid, and an ask price, an ask volume, an ask time, a security identifier and a market maker identifier for each ask; and

15 code that, for each symbol and market maker pair from a set of symbols and a set of market makers, generates at least one of a bid persistence statistic by approximating a percentage of a predetermined number trades for which the market maker had an inside bid price, and an ask persistence statistic by approximating a percentage of a predetermined number of trades for which the market maker has an inside ask price.

20 178. The program according to claim 177, further comprising code that displays at least one of the bid persistence statistic and the ask persistence statistic in at least one of a table or a chart for each corresponding symbol and market maker pair.

179. The program according to claim 178, further comprising code that dynamically sorts the at least one of the table or the chart based on a parameter selected by the user to reflect current market activity.

25 180. The program according to claim 177, further comprising code that filters the data stream for each symbol based on traded volume.

181. The program according to claim 177, further comprising code that filters the data stream for each symbol based on traded price.

182. The program according to claim 177, wherein the code that calculates the bid persistence statistic and the ask persistence statistic includes code that:

5 assigns a value of one to each order at the inside market, otherwise assigning a value of zero to the order; and
separately solves the equation:

$$\left(\Sigma VAL_p + \frac{CV - \Sigma VAL_p}{m} \right)$$

10 for bid orders and ask orders, wherein m is the predetermined number of trades, CV is the current value assigned to the order and ΣVAL_p is the prior sum of all values calculated according to the equation one trade earlier.

15 183. The program according to claim 182, wherein the code that calculates the bid persistence statistic and the ask persistence statistic includes code that multiplies the respective bid order and ask order results of the equation by one hundred to arrive at respective representations of exponential averages.

184. The program according to claim 177, wherein the bid persistence statistic and the ask persistence statistic are respectively calculated as one of a simple moving average, an exponential moving average, a weighted moving average, a linear regression, or mathematical averaging technique.